

REMARKS

Status of the Claims

Claims 30-58 are pending. Claims 30, 34, 36, 42, 44, and 52 are amended. Support for the amendment to claim 30 can be found throughout the specification, including at paragraphs 38 and 44 (published application). The amendment to the other claims are to address a typographical error. No new matter is added in the above amendment.

Claims 53-58 are allowed.¹

Issues Under 35 U.S.C. § 102

Claims 30-33, 42-44, 46-49, and 51 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Pawlak et al. This rejection is respectfully traversed. Reconsideration and withdrawal thereof are respectfully requested. Applicant respectfully submits that in view of the above amendment, this rejection is moot.

The above amendment incorporates the features of the cooling medium line extending into the roll and the cooling medium line remaining stationary as the housing rotates into independent claim 30.

Pawlak et al. discloses an arrangement for water cooling a transport roller for a roller-hearth kiln, having a cylindrical base body (1) and a cooling water conduit (3) running through the base body. A shaft (5) is fixed to the base body, the shaft being configured to receive the water input end of the conduit, and a central bore (7) for feeding the cooling water into the

¹ The Office Action indicates that claims 53-55 would be allowable if rewritten to overcome the 35 U.S.C. § 112, second paragraph rejection. This is believed to be a typographical error.

conduit. The shaft (5) is rotationally connected to a water distributing head (11) such that the cooling water is fed from a water feed pipe (12) positioned within the head into the central bore. The water feed pipe (12) has an elbow portion.

Thus, Applicant submits that the water distributing head (11), central bore (7) and the water feed pipe (12) of the prior art arrangement may be equated to the housing (2), elongate cooling medium line conduit (24) and elbow portion (20) (respectively) of the present invention.

Accordingly, one of ordinary skill in the art would understand that the water feed pipe (12) (analogous to the elongate cooling medium line conduit of the present invention) does not extend into the roll as defined in amended claim 1 of the present invention. Instead, the water feed pipe (12) extends into the shaft (5), which in turn extends into the body of the roll.

Further more, the central bore (7) of Pawlak does not remain stationary as the roll rotates as the shaft (5) is rotationally mounted to the water distributing head (11). (See page 6 of equivalent CA 02409024).

Thus, the present claims are not anticipated by Pawlak for at least the reasons that Pawlak fails to disclose or suggest the elongate cooling mechanism line conduit extending into the roll and that the cooling medium line conduit remains stationary as the housing rotates.

In order to anticipate a claim, each and every element as set forth in the claim must be described in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Furthermore, the identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). Applicants respectfully submit that in view of the deficiencies discussed above, it is clear that the references cited above do not anticipate the present invention.

In view of the above, Applicants respectfully request that this rejection be withdrawn.

Issues Under 35 U.S.C. § 103

Claims 34-35, 36-41, 50, and 52 stand rejected under 35 U.S.C. § 103 as allegedly being obvious over either Pawlak alone or as a primary reference in view of several secondary references. These rejections are respectfully traversed. Reconsideration and withdrawal are requested. However, in view of above, these rejections are moot. The claims rejected herein are all dependent from (either directly or indirectly), and incorporate all the features of, claims that are free from this rejection and should be allowable as discussed above.

The Federal Circuit has clarified that if an independent claim is non-obvious under 35 U.S.C. §103, then any claim depending therefrom is non-obvious. In re Fine, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Furthermore, Applicant respectfully submits that the prior art arrangement is a more convoluted arrangement than that of the present invention, as the prior art arrangement comprises an additional component (i.e. the shaft) which sits between the water distributing head and the roll. This would make the prior art arrangement more complicated and expensive to manufacture and install than the present arrangement, which is contained within one integrated device. Nothing in the cited prior art suggests such an integrated solution or its advantages. Furthermore, the prior art provision of a rotating bore (7) causes interference and turbulence within the coolant flow. The present invention provides an arrangement whereby coolant may flow turbulence-free through the conduit (24) thereby increasing flow and improving cooling.

Further, it is respectfully submitted that a person skilled in the art would not propose a system according to the present invention when faced with the disclosure of Jarrett without an inventive input. Jarrett clearly relates to a single flow system not providing an elongate cooling medium line. Jarrett fails to disclose or suggest any type of adaptation to provide a dual flow system wherein the coolant flows between the external surface of the elongate medium line conduit and the internal surface of the shaft.

Applicant respectfully submits that a person skilled in the art would not attempt to combine the disclosures of Pawlak and Jarrett as they relate to very different systems being single and dual flow systems to arrive at the invention defined in claim 30. Additionally, there is no disclosure or suggestion in Jarrett of an elongate cooling medium line conduit which is arranged to extend into the roll nor is there disclosure or suggestion of a cooling medium flowpath out of the roll defined between the external surface of the elongate cooling medium line conduit and the internal surface of the shaft.

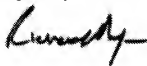
The remaining secondary references, Tim and Ives, are applied due to their disclosure of a “rotary joint heat exchange device such that an annular flange connection is utilized to secure an elbow (108) and a shaft member (52).” Thus, it should be clear that Tim and Ives fail to remedy the deficiencies of the primary reference discussed above.

As such, applicants respectfully submit that the 35 U.S.C. § 103 rejections should be withdrawn.

From the foregoing, further and favorable reconsideration in the form of a Notice of Allowability is requested, and such action is believed to be in order.

If there are any questions concerning this amendment, or the application in general, the Examiner is respectfully urged to telephone the undersigned at the number listed below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "R. Myers, Jr.", with a stylized flourish at the end.

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